Engineered Catfish Could Be Bigger, Healthier

A research team at Auburn University is busy mapping DNA, hoping to give Alabama fish farmers an economic boost by showing the way to produce catfish that are bigger, healthier and easier to catch.

At a secluded compound near the Auburn campus, the catfish genome lab sits beside a field of 28 small ponds stocked with crossbred and genetically altered fish. The ponds are covered with netting and surrounded by high fences topped with barbed wire to prevent the inadvertent release of a genetically altered catfish into the environment.

Nationally, Alabama trails only Mississippi in the production of fish. In Alabama, catfish mean $100 million a year to farmers and $125 million to processors. With cultivation and processing operations both concentrated in the Black Belt, catfish gives a big economic boost to Alabama’s poorest counties.

Auburn has already developed a hybrid of the blue and the channel catfish. Growers currently raise channel catfish, but the **hybrid fish are more resistant to disease and can survive in low-oxygen water.** They also swim higher in the water, like blue catfish, instead of staying at the bottom of the pond, like channel cats. That makes them easier to catch. “We want catfish that are dumber so they are caught more easily,” Jensen said. Channel catfish avoid nets at harvest time, so the harvest takes longer and requires more effort.

The easy-to-catch hybrids, however, are difficult to produce. Channel cats and blues don’t naturally breed with each other. Genetic engineering could allow scientists to create a species with desirable genes of both fish.

When scientists understand which catfish genes are associated with resistance to disease or with rapid growth, they can use DNA to identify the best fish and breed them. They could also graft the desirable genes onto a catfish’s DNA during the fertilization process.

When a new batch of mapped genes is posted, Auburn’s research lab gets inquiries from researchers around the world interested in his findings. You can sense the impact,” Liu said, “It ricochets around the globe.”

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**Article Questions:**

1. What would be the advantages of creating a catfish that is disease resistant?
2. How do you suppose catfish farmers pick and choose which catfish to mate to create these hybrids?
3. What do farmers want out of a catfish?
4. If you keep the catfish that have what you want in a catfish and have them reproduce what are you hoping will happen to those traits?
5. Could farmers of agriculture do the same thing with seeds? How?